宁波新马电子有限公司
NINGBO SIMA ELECTRONICS CO., LTD

CONTACTOR SPECIFICATION

高压接触器规格书

(File No.:305312 / Version: 305312 / Issued Date: 2023-5-31)

Product Description（品名）	SMEVC-TF20/1000
Part Number（编码）	
Customer name（客户）	

Customer Approval （客户批准）

STAMPING AREA （盖章处）

Issued（发行）	Checked（审核）	Approved（承认）
Adam	Qihua Xiong	Daojian Zhuang

1.0 STANDARD 符合标准	
According to(符合标准)	IEC60947-4-1
2.0 COIL CHARACTERISTICS 线圈特性	
Rated voltage 额定电压	12V DC / 24V DC
Rated power 额定功率	About 2.6W 约 2.6W
Operate voltage 吸合电压	12V:9VDC MAX. 24V:18VDC MAX.
Release voltage 释放电压	12V:1VDC Min. 24V:2VDC Min.
3.0 CONTACT RATINGS 触点规格	
Contact configuration(Normally Open) 触点结构（常开触点）	1 Form X 1 形式 X
CONTACT GAP 触点间隙	≥0.5mm
Contact material 触点材料	Cu 铜
Initial contact resistance 初始接点电阻	≤3mΩ Max. (at20A)
Maxmun switching voltage 最大切换电压	1000VDC
Rated current 额定电流	20A
Maximum breaking current 最大分断电流	1000A(320vdc.) 1 cycle /1000A(320vdc.) 1 次
Max. switching power 最大切换功率	20,000W
Operate time 吸合时间	≤30ms, excluding bounce time ≤30ms，不含触点抖动时间
Release time 释放时间	≤10ms, excluding bounce time ≤10ms，不含触点抖动时间
Mechanical endurance 机械寿命	200,000 cycles, 30 cycles/minute 20 万次，30 次/分钟
Electrical endurance (Resistive Load) 电气寿命	Resistive load(breaking):20A, 1000vdc.1,000cycles /阻性负载(分断)：20A，1000Vdc.，1,000 次

4.0 INSULATION PERFORMANCE 绝缘性能	
Dielectric strength 介电强度	3000VAC 1minute, between open contacts 3000VAC 1分钟（断开触点间） 3000VAC 1minute, between coil to contacts 3000VAC 1分钟（线圈与触点间）
Insulation resistance 绝缘电阻	1000MΩ at 1000VDC, between open contacts and coil to contacts 1000MΩ at 1000VDC（断开触点间及线圈与触点间）
Insulation type 绝缘类型	Functional insulation, between open contacts 功能绝缘（断开触点间） Basic insulation, between coil to contacts 基本绝缘（线圈与触点间）
Pollution degree 污染等级	Contact: IP6K9K 触点：IP6K9K
5.0 ENVIRONMENT PERFORMANCE 环境性能	
Category of protection 密封类型	RT V Ceramic seal type 陶瓷密封型
Operating temperature 工作温度	-40~85℃
Operating humidity 工作湿度	20~85%RH
Storage temperature 储藏温度	-40~85℃
Storage humidity 储藏湿度	20~85%RH
Vibration resistance 耐振动	(1) Capability to function during vibration No opening or closing of any closed or opened contact circuit respectively exceed 1ms when the Contactor is subjected to vibration of 10~2000Hz and vibration of 20G in each of three mutually perpendicular axes for 10 minutes respectively, while it is in operate condition and in release condition. 抗误动作能力 动作/释放状态下，接触器在三个轴向耐受频率10~2000Hz及加速度20G各10分钟，触点误动作不超过1毫秒。 (2) Capability to function after vibration No trouble on structure and characteristics after the Contactor is subjected to vibration of 10~2000Hz and vibration of 20G in

	each of three mutually perpendicular axes for 2 hours respectively. 振动耐久能力 接触器在三个轴向耐受频率10~2000Hz及加速度20G各2小时，产品构造和性能无异常发生。
Shock resistance 耐冲击	(1) Capability to function during shock No opening or closing of any closed or opened contact circuit respectively exceed 1ms when the Contactor is subjected to shock of 50G for 11ms in both directions of each of three mutually perpendicular axes for 3 times respectively, while it is in operate condition and in release condition. 抗误动作能力 动作/释放状态下，接触器在三轴六方向耐受加速度50G及作用时间11毫秒的冲击各3次，触点误动作不超过1毫秒。 (2) Capability to function after shock No trouble on structure and characteristics after the Contactor is subjected to shock of 50G for 6ms in both directions of each of three mutually perpendicular axes for 3 times respectively. 冲击耐久能力 接触器在三轴六方向耐受加速度50G及作用时间6毫秒的冲击各3次，产品构造和性能无异常发生。
Cold resistance 耐低温	No trouble on structure and characteristics after placed at -40℃ for 240 hours and 2 hours recovery in standard atmospheric conditions. -40℃中放置240小时并在标准大气条件中恢复2小时后接触器构造和特性无异常。
Thermal resistance 耐高温	No trouble on structure and characteristics after placed at 100℃ for 12 hours and 2 hours recovery in standard atmospheric conditions. 100℃中放置 12 小时并在标准大气条件中恢复 2 小时后接触器构造和特性无异常。
Humidity resistance 耐湿度	No trouble on structure and characteristics after placed at 40℃ &95%RH for 240 hours and 2 hours recovery in standard atmospheric conditions. 40℃及95%相对湿度中放置240小时并在标准大气条件中恢复2小时后接触器构造和特性无异常。

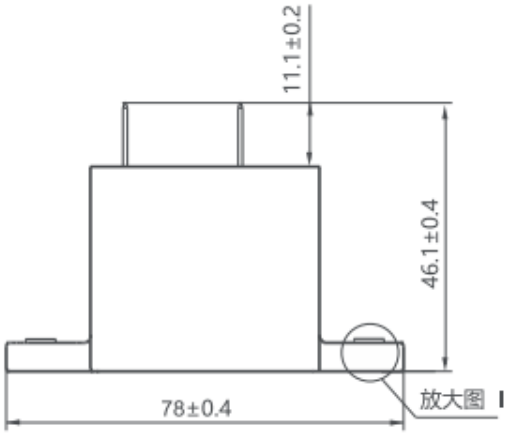
Thermal shock resistance 耐冷热冲击	No trouble on structure and characteristics after endure 100 cycles of cyclic temperature and 2 hours recovery in standard atmospheric conditions, which the temperature cycle consists of -40℃ for 0.5 hour and 85℃ for 0.5 hour. -40℃和85℃中各放置0.5小时为一个温度周期，循环100次，在标准大气条件中恢复2小时后接触器构造和特性无异常。
Terminal robustness 紧锁*引出端强度	Main terminal(M4)主要终端(M4) Torque: 1.8N·m~2.7N·m 转矩:1.8N·m~2.7N·m
6.0 MARKING 产品标识	
Position of marking 标识位置	Side of relay cover 继电器盖侧面 The shell side 外壳侧面
Cover color 外壳颜色	
Ink color 字体颜色	
Trade mark 商标	

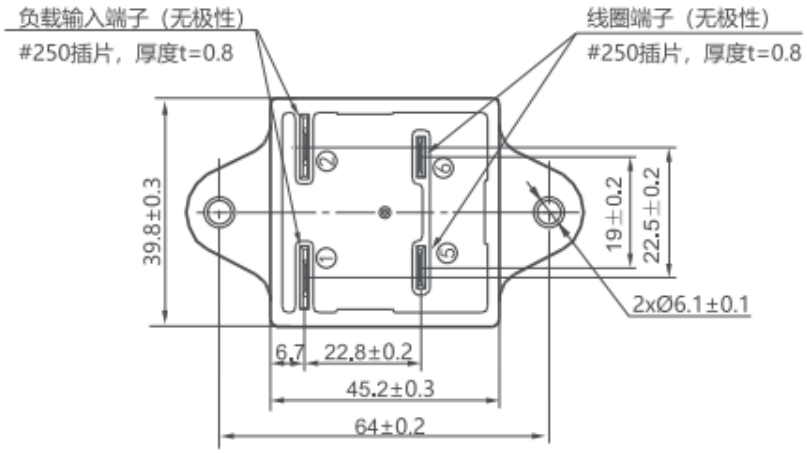
Horizontal or vertical direction 水平或者垂直安装	M6 Screw M6 螺丝 M6 screw mounting mode.M6 螺丝安装方式
Terminal robustness 紧锁*引出端强度	Torque: 1.8N·m~2.7N·m 转矩:1.8N·m~2.7N·m Locking torque: 1.8N·m~2.7N·m 紧锁扭力: 1.8N·m~2.7N·m
Terminals assignment and outline dimensions 引出端脚位和外形尺寸	Refer to APPENDIX 请参阅附录 Please refer to the attachment 请参考附件

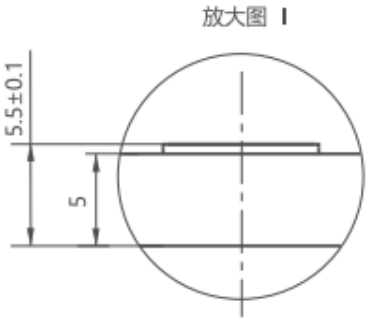
7.0 ENGINEERING NOTES 注意事项
Unless otherwise explicitly stated, the standard environment conditions for measurement or testing are listed as followings: # 除非特别申明，测量或试验的标准环境条件如下： (1) Ambient temperature is 23+5℃; 环境温度为 23+5℃; (2) Atmospheric pressure is 96+10% kPa; 大气压力为 96+10% kPa; (3) Relative humidity is 50%+25% RH. 相对湿度为 50%+25% RH.

(4) Please related test when samples used.
产品使用前请进行相关实验验证.

8.0 Outline dimension (Reference) :外形尺寸(参考)　　单位/Unit:mm





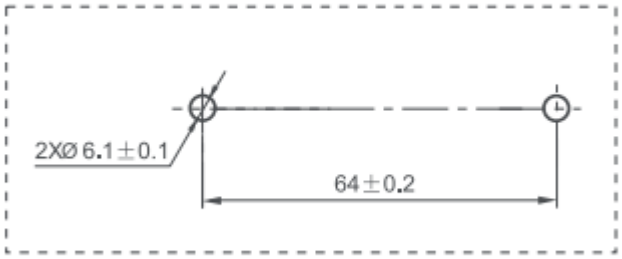


Note: The tolerance is not marked on the outer dimension of the product. When the outer dimension is ≤10mm, the tolerance is ±0.3mm. When the external size is between (10 ~ 50) mm, the tolerance is ±0.5mm; The tolerance is ±0.8mm when the external dimension is > 50mm.

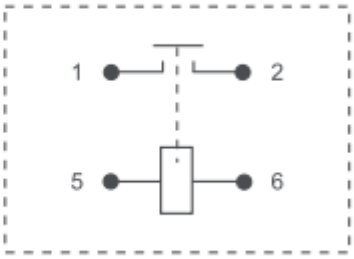
备注：产品部分外形尺寸未注公差，当外形尺寸≤10mm，公差为±0.3mm；当外形尺寸在（10～50）mm之间时，公差为±0.5mm；当外形尺寸＞50mm，公差为±0.8mm。

Mounting hold size / Wiring diagram 安装孔尺寸/接线图：

安装孔尺寸 Mounting hole size

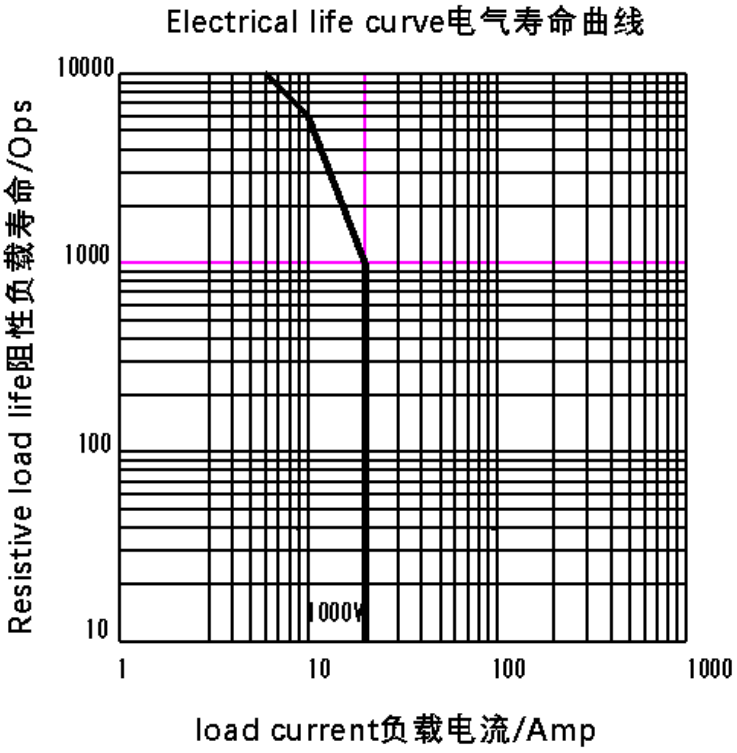


接线图 Wiring diagram

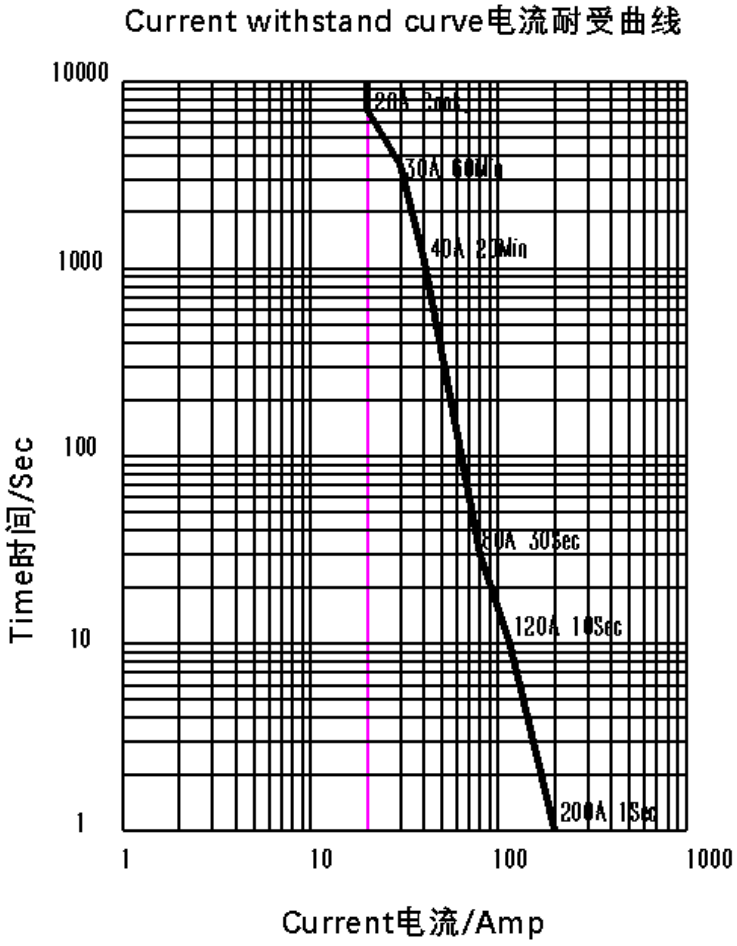


备注: 负载、线圈均无极性

9.0 Electrical life curve 电气寿命曲线



10.0 Tolerance curve 耐受能力曲线



11.0 Pickup voltage and release voltage variation curve 吸合电压、释放电压变化曲线